

Investigation of critical heat transfer in

8/862/62/002/000/024/029
A059/A126

$$q_{cr} = k_0 \sqrt{g \gamma''} \sqrt{\sigma (\gamma' - \gamma'')} \omega^{0.6} \times \\ \times \left(\frac{\gamma' - \gamma''}{\sigma g} \right)^{0.125} \left[1 + 0.065 \left(\frac{\gamma'}{\gamma''} \right)^{0.8} \frac{c \Delta t_{sat}}{r} \right]$$

where k_0 is a constant, r the latent heat of evaporation, g acceleration due to gravity, γ' and γ'' the specific gravities of the liquid and the vapor, respectively, σ the surface tension, and c the heat capacity of the liquid, and by B.A. Zenkevich (Atommaya energiya, v. 6, vyp. 9, 1959):

$$q_{cr} = r \sqrt{\frac{g \gamma''}{\nu}} - \left(2.5 + 184 \frac{\Delta t}{r} \right) 10^{-6},$$

where ν is the kinematic viscosity and Δt the difference of the heat contents. The experimental points lie in the region between the curves corresponding to these formulas. There are 4 figures.

ASSOCIATION: Moskovskiy inzhenerno-fizicheskiy institut (Moscow Engineering Physics Institute)

Card 3/5

ACCESSION NR: AP3002817

S/0207/63/000/003/0130/0135

AUTHOR: Mikhaylov, L. Ye. (Moscow)

TITLE: Generalization of some critical boiling experiments in liquids under forced flow using thermodynamic similarity

SOURCE: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 3, 1963, 130-135

TOPIC TAGS: critical boiling, ethyl alcohol, forced flow, heat transfer gauge

ABSTRACT: Critical boiling of water, ethyl alcohol, and butyl alcohol in forced flow was studied experimentally with the liquids circulating in a closed system. Flow rates were determined by an EPID-02 instrument, and the pressure was supplied from a steam boiler. An automatic potentiometer type EPP-09 was used to measure the current and voltage drop of the heat transfer gauges. The ethyl alcohol flow velocity w varied between 1.5 to 12 m/sec under 5, 10, 20, 30, 40, and 50 atm pressures. The similarity criteria were governed by $K_* = \frac{p_* V_*}{RT_*}$ where μ - viscosity,

p_* , V_* , T_* - critical pressure, velocity and temperature respectively. The results for all three liquids used, plus that of methyl alcohol, are given in tabular form on the Enclosure. The experimental results are correlated within $\pm 5\%$ through the

Card 1/3

ACCESSION NR: AP3002817

expression $\frac{q_*}{c_0 p_*} = 3 \cdot 10^{-4} \left(1 - \frac{p}{p_*}\right) \left(1 + 0.7 \frac{\Delta i}{r}\right) \times$ where q_* - critical heat flow rate, r -
 $\left[1 + 0.8 \left(10^3 \frac{w}{c_0}\right)^{0.6}\right]$

latent heat of vaporization, i - enthalpy. The above correlation holds for the
 ranges $0.1 < p/p_* < 0.6$, $0.1 < \Delta i/r < 1$, $0.5 < w/c_0 < 5$. Orig. art. has: 9
 formulas, 6 figures, and 1 table.

ASSOCIATION: none

SUBMITTED: 24Oct62

DATE ACQ: 16Jul63

ENCL: 01

SUB CODE: ME

NO REF SOV: 017

OTHER: 000

ord 2/3

MIKHAYLOV, Leonid Yefimovich; NEVFL'SHTEYN, V.I., vedushchiy red.;
MITGARTS, B.B., kand.geol.-miner.nauk, red., starshiy nauchnyy
sotrudnik; YASHCHURZHINSKAYA, A.B., tekhn.red.

[Underground water in the Bukhara-Karshi oil- and gas-bearing artesian
basin] Podzemnye vody Bukhara-Karshinskogo neftegazonosnogo
artezianskogo basseina. Leningrad, Gostoptekhhizdat, 1962. 165 p.
(Leningrad. Vsesoyuznyi geologicheskii institut. Trudy, vol. 84.
Problema neftegazonosnosti Srednei Azii, no.12). (MIRA 16:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy geologicheskii institut
(for Mitgarts).

L 29739-66 EWT(1)/EWT(m)/EPP(n)-2/EPP(f) EWC(m) IWP(c) NW/OS/SD-2
ACC NR: AT6005822 SOURCE CODE: UR/0000/65/000/000/0143/0150

AUTHORS: Mikhaylov, L. Ye.; Naboychenko, K. V.; Kiryutin, A.A.

ORG: none

TITLE: Experimental results on the boiling crisis in forced motion of acetone, benzene, and monoisopropyl diphenyl

SOURCE: Moscow. Inzhenerno-fizicheskii institut. Nekotoryye voprosy fiziki i tekhniki yadernykh reaktorov (Some problems in the physics and engineering of nuclear reactors). Moscow, Atomizdat, 1965, 143-150

TOPIC TAGS: boiling, heat transfer, acetone, benzene, organic cooled nuclear reactor, nucleate boiling, liquid flow, forced flow

ABSTRACT: The authors describe the results of experiments carried out at MIFI to determine the critical densities of heat flux under forced motion of the liquids in question through an annular channel. The purpose of the experiments was to check on theoretical relations derived by one of the authors (Mikhaylov, Prikl. mekh. i tekhn. fizika no. 3, 130, 1963) and to proceed to an investigation of the mixture

Card 1/3

L 39739-66

ACC NR: AT6005822

of monoisopropyl diphenyl and benzene on the basis of the experimental data for benzene and monoisopropyl diphenyl separately, since the critical heat flux for a mixture turns out to be higher for each of the pure liquids. The apparatus used was a closed circulating loop driven by a glandless centrifugal pump with screened drive, designed for pressure up to 100 bar and temperature up to 400C and delivery up to 5 m³/hr. The liquid flows through an annular channel between a heating element and a glass tube, with inside and outside measuring 6/10 mm in diameter and 22 mm in length. The fuel element was made of stainless steel and was heated with direct current. The transition from nucleate to film boiling (boiling crisis) was observed through a window and was also recorded automatically by measuring the change in the resistance of the fuel element. Two methods were used to reach critical thermal load, one using gradual heating of the fuel element itself, and the other using auxiliary heaters. The tests were made at various pressures and velocities, which were maintained constant during each experiment. The results are presented in the form of tables. The experimental values are about 10 -- 30% higher

Card

2/3

39739-66

ACC NR: AT6005822

for benzene and 10 -- 15% higher for acetone than the theoretical values, the discrepancy increasing with the pressure. There are no comparable published data. The experiments with monoisopropyl diphenyl were compared with the data of L. S. Sterman and V. D. Mikhaylov (Teploenergetika no. 2, 82, 1963) and are found to be in good agreement with them. Orig. art. has: 3 tables.

SUB CODE: 20,18/SUBM DATE: 05Jun65/ ORIG REF: 004/ OTH REF: 001

Card *HS* 3/3

MIKHAYLOV, M. [Mykhailov, M.]

Crops are manufactured at a factory. ... zhyttia 12
no.12:51-52 D '62. (MIRA 16:8)

102-1-100, 17
BULGARY/Organic Chemistry - Synthetic Organic Chemistry.

0-2

Abs Jour : Ref Zhur - Khimiya, No 14, 1958, 46634
Author : VI. Kabaivanov, M. Mikhaylov, L. Bozveliev
Inst : Institute of Chemistry and Technology.
Title : Separation of Methylvinylketone at Its Preparation of Acetone and Formaldehyde.
Orig Pub : Godishnik Khim.-tekhrol. in-t, 1954, 1, 13-20
Abstract : The mixture of 4 moles of acetone and 1 mole of CH_2O (40%-ual solution) is brought to pH from 8 to 9 with 1 n. NaOH and left to season 4.5 hours at 25 to 32°; it is neutralized with HCl, acetone is distilled off at the temperature up to 90°, after which the rest is distilled with ZnCl_2 (1% of ZnCl per initial acetone) at 150 to 160° and at 180° in the end. The distillate is fractionated in a column, the fraction with the

Card 1/2

BULGARIA/Organic Chemistry - Synthetic Organic Chemistry.

G-2

Abs Jour : Ref Zhur - Khimiya, No 14, 1958, 46634

boiling point of 31.5 to 32°/130 mm (azeotrope of methylvinylketone (I) with 1.7% of water) is dried with Na_2SO_4 or $(\text{CH}_3\text{CO})_2\text{O}$ and distilled repeatedly. Yield of I - 18%, boiling point - 33 to 35°/130 mm, n_{D}^{20} - 1.4086. For the separation of γ -ketobutanol (II), the reaction mixture is fractionated in a column in vacuo after having been neutralized with HCl; yield - 26 to 31%, boiling point - 69 to 70°/11 mm, n_{D}^{15} - 1.435.

Card 2/2

BULGARIA/Chemical Technology. Chemical Products and Their Applications. Industrial Organic Synthesis. H

Abs Jour : Ref Zhur-Khimiya, No 6, 1959, 20388

Author : Kabaivanov, Vl., Mikhaylov, M.

Inst : -

Title : Obtaining of Acetonecyanohydrin.

Orig Pub : Godishnik Khim. tekhnol. in-t, 1956 (1957),
N 1, 43-46

Abstract : While obtaining acetonecyanohydrin (I) by the effect of HCN on an aqueous solution of acetone (II), at the moment of isolation, a yield of 77-73 percent of the product is obtained with a boiling point of 7-32°. A variant of this method is

Card : 1/4

14-58

BULGARIA/Chemical Technology. Chemical Products H
and Their Applications. Industrial
Organic Synthesis.

Abs Jour : Ref Zhur-Khimiya, N 6, 1959, 20386

proposed with utilization of CH_3OH (III)
as a medium instead of water. To obtain
 HCN , KCN is utilized which, being weakly
soluble in III, assures a quantitative
passage of the reaction. H_2SO_4 is used in
the mixture with III. In this variant, the
yield of I is increased up to 94-95 per-
cent, excludes the operation of extraction
with ether and drying of the extract with
 Na_2SO_4 with subsequent filtration are ex-
cluded, the reaction proceeds at a higher
temperature (20-30 °), and a purer product
with a boiling point of 81-82° is obtained.

Card : 2/4

BULGARIA/Chemical Technology. Chemical Products H
and Their Applications. Industrial
Organic Synthesis.

Abs Jour : Ref Zhur-Khimiya, N. 6, 1959, 20388

67 g of 94 percent KCN are mixed for 15 minutes with 90 ml of II and 20 ml of chemically pure III at 20-30°; then, during mixing (200-300 rpm), a mixture is added by drops, of 54 ml of 100 percent H₂SO₄ and 45 ml of III for 2.5 hours at 20-30°. The temperature is regulated by cooling with water. The mixture is mixed for another 30 minutes, the precipitate is drawn off (K₂SO₄ and KHSO₄), and washed with III (3 x 10 ml). From the filtrate (pH 3-4), II and III are distilled in a water bath; the residue is distilled at 18 mm of a mer-

Card : 3/4

H. 9

BULGARIA/Chemical Technology. Chemical Products H
and Their Applications. Industrial
Organic Synthesis.

Abs Jour : Ref Zhur-Khimiya, N. 6, 1959, 20388

cury column, selecting the fraction with
boiling point 81-82°, n_D^{20} 1.4048. 78.2 g
(95 percent) of I are obtained. The method
can be used in industry, and to obtain other
cyanohydrines. -- Z. Rachinskiy

Card : 4/4

BULGARIA / Chemical Technology. Chemical Products and H-29
Their Application. Plastics.

Abs Jour: Ref Zhur-Khimiya, No 1, 1959, 3019.

Author : Kabaivanov, V., Mikhaylov, M., Pangarova, P.

Inst : --

Title : Urea-Formaldehyde Foam Plastics With an Increased
Strength.

Orig Pub: Godishnik Khim.-tekhnol. in-t, 1956, (1957),
No 1, 47-53.

Abstract: A method for preparing urea-formaldehyde foam
plastic (P) was worked out. The method is
based on the application of combined foaming —
mechanical in the presence of an emulgator, laurool
(I), and on the decomposition of a porophore,
(NH_4)₂CO₃ (II). A resin for P is prepared as
follows (in grams): formalin 37.7% - 100,

Card 2/2

KHAYLOV, M.

1 3
The preparation of acetone cyanohydrin. VI. Kahlranz
and M. Khaylov. *Compt. rend. acad. bulgare sci.* 9,
No. 6, 63-6 (1956).—KCN (67 g.), 90 ml. acetone, and 20 ml.
MeOH is stirred 15 min. at 20-30° and a mixt. of 64 ml.
H₂SO₄·H₂O and 45 ml. MeOH added under vigorous stir-
ring 2.5 hrs. at 20-30°. The mixt. is stirred 20 min. and
the ppt. filtered off and washed three times with 10 ml.
methanol. The filtrate (pH ≈ 3-4) evapd. on an H₂O bath
and vacuum distd. gave 78.2 g. MeC(OH)CN, b_p 81-2°,
n_D 1.4048. N. Benedick.

BULGARIA/Chemical Technology - Chemical Products and Their
Application, Part 4. - Dyeing and Chemical
Treatment of Textile Materials.

H-34

Abs Jour : Ref Zhur - Khimiya, No 14, 1958, 49101

Author : M. Mikhaylov

Inst :

Title : Tarpaulin Impregnation.

Orig Pub : Leka promishlenost, 1957, 6, No 1, 45-46

Abstract : In order to make a tarpaulin (T) waterproof, it is im-
pregnated with a mixture of 1 part of paraffin emulsion
(50 kg of paraffin, 16 kg of soap and 3.2 kg of glue in
1000 liter of emulsion) and 4 parts of Schweitzer's rea-
gent containing 20 g of Cu per liter. The fabric is
dipped in this mixture three times and wrung, after
which it is dried, calendered and cooled. T-s are impre-
gnated unbleached or after having been dyed with vat
dyes. The Cu content in T-s should be 1%.

Card 1/1

16

KHAYLOV, M.

7
15
Amination of chlororubber. V. Kabaivanov, M. Milkhalov, and K. Karamova (Chem. Tech. Inst. Sofia, Bulgaria). *Doklady Akad. Nauk S.S.S.R.* 112, 267-70 (1957); cf. Mastagli, et al., *C.A.* 44, 6189c. A dispersion of 10 g. powdered, hard chlorinated rubber contg. 63% Cl₂ (Pergul-B-50) was heated in 2.55 g. anisarin oil and 123 ml. 20% NH₄OH in an autoclave 3 hrs. at 95-145°. The products were analyzed after washing with HCl, H₂O, 5% NaOH, and H₂O. The results, shown graphically, indicate that with rise of reaction temp. the Cl content of the product declines; the amt. of structurally bound N rises to a max. of 13.5% at 125°, while ionically active N rises to a max. of 3.5% at 115-25°. There are thus indications that at 95-105° the steric hindrance to dehydrochlorination declines and the reaction is mainly intramol. with little cross-linking. At higher temps. up to 135° cross-linking increases in intensity to a const. value. Chlorination of rubber in CCl₄ in presence of fat 45-55° gave a chlororubber with 88.8% Cl₂; this aminated as above showed a reduced content of structural N, in comparison with the above sample. A similar result was obtained with chlororubber contg. 64% Cl₂; however the ion exchange capacity for HCl was 2.26 meq. equiv./g. for the product from 88% chlorinated rubber, 1.22 for 64% chlorinated rubber, and 1.26 for 63% chlorinated rubber. G. M. Kosolapoff

6
1-4E2c
2 May

Rm any

KABAIVANOV, Vl.; MIKHAYLOV, M.

Preparation of acetone cyanohydrin (α -oxyisobutyronitril) from acetone and sodium cyanide. Dokl. AN SSSR 117 no.2:234-236 N '57.

(MIRA 11:3)

1. Sofiyskiy khimiko-tekhnologicheskii institut Sofiya, Bolgariya.
Predstavleno akademikom I.N. Nazarovym.

(Acetoacetonitrile)

KABAIVANOV, V.; MIKHAYLOV, M.; DIMITROVA, Ye.

Study of the kinetics of polycondensation of dypnone with formaldehyde
by the polarographic method. Khim. nauka i prom. 3 no.4:542-544 '58.
(MIRA 11:10)

1. Sofiyskiy khimiko-tekhnologicheskiy institut.
(Dypnone) (Formaldehyde)

COUNTRY : Bulgaria h-25
 CATEGORY :
 ABST. JOUR. : RZhKhim., No. 1959, No. 24387
 AUTHOR : Mikhaylov, M.
 INST. : Chemical Institute, Bulgarian Academy of
 TITLE : Study of Polyphenols of Bulgarian Tobacco by
 Partition Paper Chromatography. II.
 Derivatives of Cinnamic Acid.
 ORIG. PUB. : Izv. Khim. In-t. B'lg. AN, 1958, 6, 193-107

ABSTRACT : Detailed study of polyphenolic compounds of
 tobacco which are derivatives of cinnamic acid. It was
 found that this group of substances can be subdivided in
 2 sub-groups: substances with 3,4-dihydroxybenzene grouping,
 and those not containing it. Neochlorogenic and caffeic
 acids were identified. Free chlorogenic acid was found for
 the first time in an eastern tobacco. The presence therein
 of free quinic acid was not ascertained. Communication I
 RZhKhim., 1957, No 14, 50028.

From author's summary.

DEAL:

260

COUNTRY : Bulgaria M-31
 SOURCE : Chemical Technology - Carbonates, Natural
 and Synthetic. USSR.
 AUTHOR : PEKIN, No. 24, 1959, No. 190,
 AUTHOR : Gerasimov, M.; Kuznetsov, D.; Nizhnikov, M.
 TITLE : A New White Filler Material for Coating
 of Water

IC. P. J. : Dokl. Akad. Nauk, 1959, 7, No. 4, 13-16

ABSTRACT : It is proposed to use as a light-colored
 filler a material recovered from the sediment which is
 formed on the surface of water at reboiling-power station,
 soda manufacturing plant, etc. Its composition consists
 essentially of CaCO_3 and $\text{MgCO}_3 \cdot \text{H}_2\text{O}$. By its technolo-
 gical characteristics this filler is quite analogous to
 precipitated chalk, but its activity is 2 times greater
 than that of natural ground chalk. -- M. Al'bam.

CACD:

268

MIKHAYLOV, M.

Distr: 4E2c(j)

✓ Carbamide-formaldehyde resins and their application as adhesives. M. Mikhaylov, *Leka Prom.* (Sofia) 8, No. 10, 22-4 (1950). The carbamide (I)-HCHO (II) reaction is carried out in weakly alk. or weakly acid media. Depending on the molar ratio, the products are mainly the mono- and di-Me monomers. Interaction of the remaining amino H atoms yields the tetra-Me monomer. If the reactants are condensed in NH_3 , the cyclotrimer results. When the pH is below 2, the cyclomethylene monomer results. All forms undergo condensation and dehydration, producing a mixt. of many mutually sol. resinous materials, mainly open chain. Varying only the reaction media yields H_2O -sol. resins not suitable as glues. However, if the pH is lowered during the process, hydrophobicity is accomplished. Furthermore, by decreasing the molar ratio of I:II from 1:2 to 1:1.7 after obtaining hydrophobicity, the resulting resin is considered suitable for use in adhesives. In all cases the temp. of reaction was 90-5°. Increasing the hydrophobicity decreases the relative wt. at const. viscosity. Modifiers are used to vary the properties of the final product. For hot gluing (100-10), the NH_4^+ salts of strong inorg. acids are utilized. Alcs. (glycols and their derivatives) retard brittleness. Glycerol decreases the H_2O resistance, while starches decrease the internal tension and increase the flexibility. Y. Himelblum

3
1-JAT(NB)
1

MIKHAYLOV, M.; ALAMINOV, Kh.

Production of melamine from urea. Khim.prom. no.5:319-325 My '61.
(MIRA 14:6)

1. Nauchno-issledovatel'skiy institut khimicheskoy promyshlennosti,
Sofiya, Bolgarskaya Narodnaya Respublika.
(Melamine) (Urea)

S/064/61/000/011/004/007
B110/B101

AUTHORS: Mikhaylov, M., Alaminov, Kh.

TITLE: Production of melamine from urea

PERIODICAL: Khimicheskaya promyshlennost', no 11, 1961, 63 - 64

TEXT: In continuation of previous studies (Khim prom, no 5, 319 (1961)) the authors studied the effect of temperature, heating time, addition of ammonia to urea during the reaction $6\text{CO}(\text{NH}_2)_2 \rightarrow \text{H}_6\text{C}_3\text{N}_6 + 3\text{CO}_2 + 6\text{NH}_3$. The pressure in the autoclave was $\leq 200 - 220$ atm. With a molar ratio of urea : ammonia = 1 : 0.75, fast increase in melamine yield and sharp decrease of products insoluble in water were observed between 315 and 330°C. With further increase in temperature and heating time the melamine yield decreases, probably due to deamination into water - insoluble melem, melam, and mellone. During determination of the temperature dependence of pressure, the pressure rise was found to be inhibited between 310 and 330°C, probably due to melamine melting. Increase in the ratio urea : ammonia causes pressure rise in the system and acceleration of the amination of cyanuric acid. With a molar ratio of 1 : 2 the melamine yield increases rapidly at low temperatures. The behavior of the system is due to:

Card 1/2

Production of melamine from urea

S/064/61/000/011/004/007
B110/B101

(a) the ratio between the rate of conjugate reactions of urea conversion into cyanuric acid, its amination and deamination of melamine formed, and (b) phase conversions (melting of melamine, NH_3 dissolution in the melt, etc.). Two further series of experiments conducted at molar ratios of 1:4 and 1:6 caused similar dependences. Thus, melamine can be produced not only at 400°C as usual, but also at $315 - 330^\circ\text{C}$. There are 4 figures and 2 tables. ✓

ASSOCIATION: Scientific Research Institute of the Chemical Industry,
Sofia, Bulgarian People's Republic

Card 2/2

MIKHAYLOV, M.; ALAMINOV, Kh.

Production of melamine from urea. Khim.prom. no.11:805-806 N '61.
(MIRA 15:1)

1. Nauchno-issledovatel'skiy institut khimicheskoy promyshlennosti,
Sofiya, Bolgarskaya Narodnaya Respublika.
(Melamine) (Urea)

3/007/62/000/002/003/...
0205/0307

AUTHORS: Mikhaylov, M. and Sharov, L.

TITLE: Synthesis of polyamidoamines

PERIODICAL: Referativnyy byulleten' Bolgarskoy nauchnoy literatury, Khimiya i khimicheskaya tekhnologiya, no. 2, 1962, 8, abstract 111, Khimiya i industriya, 24, 1962, book 1, pp 9-15 (Rus. and Ger. summaries).

TEXT: It was found that the technology of preparing polyamidoamines from linseed oil and aliphatic polyamines may be made better by improving individual stages of the synthesis. Synthesis of polyamides proceeds via the following stages: methanolysis of linseed oil, polymerization of the methyl esters of the aliphatic acids in linseed oil, and polycondensation of the aliphatic polyamines. Separation of crude methyl ester without washing with water after the methanolysis of linseed oil increases the ester yield by 10% and reduces losses of MeOH. During the ester polymerization stage at 315°C, the duration is decreased to 8-9 hours and the yields of

Card 1/2

Synthesis of polyamidoamines

3/007/62/000/002/003/012
D205/D307

dimers and trimers are 56-58%. Polycondensation is carried out with ethylene diamine and diethylene triamine.
[Abstracter's note: Complete translation]

Card 2/2

3/007/62/000/002/007/012
D205/D307

AUTHORS: Mikhaylov, M. and Budevskaya, Kh.

TITLE: Preparation of epoxide resins from lignin

PERIODICAL: Referativnyy byulleten' Bolgarskoy nauchnoy literatury, Khimiya i khimicheskaya tekhnologiya, no. 2, 1962, 8, abstract 110, Doklady B.N., 15, 1962, book 2, pp 155-158 (German, Rus. summary)

TEXT: It was found that during the epoxidation of sulfated lignin in the presence of 49% NaOH, and with simultaneous distilling off the water, (both that produced in reaction and water introduced from outside), a resin is formed which, after removing the epichlorohydrin by distillation under vacuum is converted into a form insoluble in epichlorohydrin and other solvents. During the epoxidation of phenol lignin resin (condensation product of phenol and sulfated lignin) a soluble epoxide resin is formed, with a softening point of 72-95°C. This resin dissolves in ethylene glycol, dioxan, chloroform, and cyclohexane, but is insoluble in CCl₄, and in aromatic or

Card 1/2

Preparation of epoxide resins ...

3/007/62/000/002/007/012
D205/D307

aliphatic hydrocarbons. The resin combines with phenol-formaldehyde and diene resins and hardens under the action of aliphatic polyamides and their adducts. The resin may be used for the preparation of varnishes, pastes and glues (Sofia, Bolgarskaya akademiya nauk, Institut organicheskoy khimii (Sofia, Bulgarian Academy of Sciences, Institute of Organic Chemistry)).

[Abstracter's note: Complete translation]

Card 2/2

MIKHAILOV, M.; IVANOV, V.

Preparation of terephthalic acid by thermal disproportioning
of potassium benzoate. Godishnik Inst khim prom 2:147-165 '63.

Mikhailov, M.

The prospects for the future in the field of interplanetary flight is tremendous. The results achieved thus far are only the beginning. There are rockets already available which will permit making cosmic flights to the Moon and to the nearest planets. The positive solution of the problem of man's flight is being worked out. It is realization now depends mainly on the solution of a number of problems connected with the safety of man in cosmic space, with his protection against the effects of different kinds of radiation, and with ensuring his safe return to Earth. There is no doubt that these problems will be successfully solved.

"We have every reason to assume," says Sedov, "that the greatiose plans of technical progress set forth by the 21st Party Congress will be fulfilled and will serve as the basis for new, still greater successes of the USSR in the realization of interplanetary flight." Sedov concludes that Sputnik III will continue its flight throughout the summer and fall ("Toward New Successes in Cosmic Flight," by Academician L. I. Sedov, Moscow, Pravda, 15 May 59).

Radio Functioning Normally

The radio transmitter Maysa aboard Sputnik III has been operating continuously for the past several days for 1,200 kilometers of magnetic tape have been used in recording its signals.

The radio transmitter consists of two units, a main and a reserve transmitter and accumulating device and power sources. In case of failure of the main unit, provisions have been made for switching over to the reserve transmitter. This situation has not arisen, as the main transmitter has reliably performed its task up to now. At present, the radio has worked continuously for more than 3,000 hours of the total time. The radio operated for more than 6.5 hours from the solar batteries and the remainder of the time from the chemical power source.

The voltage selected for the solar batteries was such that when they are illuminated by the sun it exceeds the voltage of the chemical power source. Thus, the transmitter is fed by the solar battery and the chemical source of power are not depleted when the solar batteries are in shadow. The transmitter is fed from the electrochemical source.

The lengthy operation of Maysa made it possible to arrive at a number of important conclusions connected with the operating conditions of solar batteries in cosmic space. Prof. M. M. Kuznetsov, a Soviet scientist. It is possible to consider as reliable the first type of solar radiation sensor erosion, and temperature effects present no hazard to the operation of an efficiently designed solar battery. The Radio Maysa is operating, by Prof. M. Mikhaylov, Moscow, Pravda, 15 May 59.

501 073, Dept of Defense, Info. a Jan 3 and 13 Dec, 12 June 1959, Uncl.

MAYLOV, M., Prof

"Radiostation 'Mayak' is Active" (Radiostantsiya 'Mayak' deystvuyet)
Pravda, 15 May 1959, p 4

The article describes the radiostation "Mayak" installed on the third
Earth satellite, which has been transmitting signals for the whole year.

Name : MIKHAYLOV, M.

Title : Professor.

Remarks : M. MIKHAYLOV is the author of an article entitled "Radio Station 'Mayak' (Light House) if Functioning", "Mayak" being the R radio station aboard the third Sputnik.

Source : M: Stantsii v Kosmose (Stations in Outer Space), a collection of articles, published by the USSR Academy of Sciences, Moskva, 1960, with foreword by Academicians A. N. Nesmeyanov and A. V. Topchiyev, p. 232.

77 10

MIKHAYLOV, M. (Moskva)

Increasing the service life of a capacitor. Radio no. 12:21 D '60.
(MIRA 14:1)

(Electric capacitors)

MIKHAYLOV, M.

"Guard network" for the protection of tubes in the output stage of
an amplifier. Radio no.10:55 0 '61. (MIRA 14:10)
(Radio)

MIKHAYLOV, M.

Novgorod under the wings. Kryl. rod. 15 no.8:12 Ag '64
(MIRA 18:1)

Radiology

BULGARIA

MINCHEV, M. STYOV, T.: Scientific Research Institute of Radiology and
Radiation Hygiene (Director Docent Iv. Nikolov)

"A New Method for the Quantitative Determination of Radioactive Contamination
of Surfaces"

Sofia, Radiatsionnaya i Meditsinskaya, Vol 5, No 4, 1966, pp 266-269

Abstract: A procedure for the quantitative determination of radioactive contamination of surfaces has been developed which is based on the method of film decontamination proposed by St. Rebov et al (Author's Cert. No 15,757, 25 Aug 64). By using a polyvinyl alcohol film, 96% of the radioactive impurities contaminating a surface are removed. To form this film in the quantitative procedure for the determination of contamination, a solution prepared by heating 20 g of polyvinyl alcohol in 100 g of a 2% solution of EDTA for 10 min at 100° on a water bath under stirring is used. Ten cc of 50% alcohol and 4-5 drops of glycerol are added to the viscous solution. Upon application of the solution to a surface, the film forms in 20-30 min. A section of the film with a definite area is dissolved in water at 40-50°. The resulting solution is evaporated to form a thin film (5-6 mg/cm²) on which measurement of the radioactivity is carried out by means of a counter. Three references (2 Bulgarian, 1 USSR). Manuscript received Jul 66.

1/1

MIKHAYLOV, M A

^H
MIKAYLOV, M.A.

Some problems concerning the cultivation of gun-bearing astragals
in Azerbaijan. Trudy Bot.inst.Ser.6 no.7:369-371 '59.
(MIR, 13:4)

1. Botanicheskii institut im. V.L.Komarova AN AzSSR, Baku.
(Azerbaijan--Milk vetches)

SENNIKOV, V.M.; MIKHAYLOV, M.A.

Ordovician of the Khemchik zone in western Tuva. Geol. i geofiz. no.1:
141-144 '69. (MIRA 16:4)

1. Sibirskiy nauchno-issledovatel'skiy institut geologii, geofiziki i
mineral'nogo syr'ya, Novosibirsk.
(Tuva A.S.S.R.—Geology, Stratigraphic)

KRIVORUCHKO, M.G.; KURLAT, F.L.; MIKHAYLOV, M.A.; SOKOLOVSK II, Yu.Ye.;
YASTRZHEMSKIY, L.A., red.; STRZHIZHOVSKIY, F., red.; YANCHUK, A.,
red.; SHLYK, M., tekhn. red.

[Across the streets of Moscow; guidebook]Po ulitsam Moskvy; putevoditel'. Moskva, Mosk.rabochii, 1962. 429 p. (MIRA 15:9)

1. Rabotniki Moskovskogo gorodskogo ekskursionnogo byuro (for Krivoruchko, Kurlat, Mikhaylov, Sokolovskiy). 2. Direktor Muzeya istorii i rekonstruktsii Moskvy (for Yastrzhembskiy).
(Moscow—Guidebooks)

MIKHAYLOV, M.A.; VEDERNIKOVA, T.I.

Pyrohydrolysis of magnesium, strontium, and barium fluorides under dynamic conditions. Soob.DVFAN SSSR no. 15:37-41 '62. (MIRA 17:9)

1. Dal'nevostochnyy filial imeni Komarova Sibirskogo otdeleniya AN SSSR.

MIKHAYLOV, M. A.

"Interaction With Superheated Steam of Fluorides of Metals of the Second Group of the Periodic System," dissertation for the degree of Candidate of Chemical Sciences by M. A. Mikhaylov, Far-Eastern Affiliate, Academy of Sciences USSR, Zhurnal Neorganicheskoy Khimii, Vol 1, No 10, Oct 56, p 2430

The topochemical phenomena involved in the interaction of fluorides of alkaline earth metals and fluorides of the zinc subgroup with superheated steam have been investigated. It has been shown that the transformation of fluorides of metals of the second group into oxides can be brought about by this method. The kinetics of the processes which can take place have been studied. It was established that the reactivity of the fluorides towards steam depends on the group ionization potential of the cations.

The experimental results showed that the reaction of the fluorides of magnesium, calcium, zinc, cadmium, and mercury with superheated steam takes place in the solid phase, that of the fluorides of beryllium and strontium with participation of the liquid phase, and that of barium fluoride with participation of the gas phase.

A bibliographic review of publications on the kinetics and mechanism of topochemical reactions and the properties of fluorides has been compiled in connection with the work described.

[Comment: The results obtained in the work in question have a bearing on the production of beryllium oxide for nuclear reactors and possibly the separation of fluorides by selective conversion to oxides.]

m 1274

MIKHAYLOV, M.A.; OZHIGOV, Ye.P.

Evaluation of the reactivity toward water vapor of the
fluorides of metals in group 2 of the periodic system, as
viewed in the light of the phenomenon of secondary periodicity.
Soob.Prin.otd.VKHO no.3:55-64 '57. (MIRA 13:6)

1. Dal'nevostochnyy filial im. V.L.Komarova Akademii nauk SSSR.
(Fluorides) (Water vapor) (Periodic law)

MIKHAYLOV, M.A.

Kinetics of the pyrohydrolysis of calcium fluoride and fluorite under dynamic conditions. Izv. vost. fil. AN SSSR no.9:64-68 '57.

(MIRA 11:1)

1. Dal'nevostochnyy filial AN SSSR.

(Fluorite) (Calcium fluoride) (Hydrolysis)

8(0), 21(4)

SOV/112-59-5-9219

Translation from: Referativnyy zhurnal. Elektrotehnika, 1959, Nr 5, p 113 (USSR)

AUTHOR: Kozachek, I. A., and Mikhaylov, M. A.

TITLE: Segregation of Supplies to Anode and Heater Circuits in a RARK Drill-Hole Probe

PERIODICAL: Razved. i promysl. geofiz., Nr 20, 1957, pp 71-73

ABSTRACT: To decrease battery consumption in working with detachable apparatus for radioactive logging supplied by a three-core cable, it is recommended that supplies of anode and heating circuits of the RARK probe be segregated. To this end, RARK equipment should be so remodeled that the storage battery is connected to the cable cores leading to "heater" and "ground" terminals, and that the anode circuits of the control bench and the probe are supplied separately. Due to a considerable voltage drop in the cable, the storage battery must have a voltage 12 v for the 12P4S tubes. The new supply circuit approximately halves anode-battery consumption. Detailed instructions for remodeling the RARK and making the new control circuit are given.

T.A.K.

Card 1/1

MIKHAYLOV, M.A.

Reaction of superheated steam with fluorides of metals of
group II of the D.I. Mendeleev periodic system. Trudy TGU
145:11-24 '57. (MIRA 12:3)

1. Dal'nevostechnyy filial imeni V.L. Komarova AN SSSR.
(Fluorides) (Steam, Superheated)
(Chemical reactions, Rate of)

MIKHAYLOV, M.A.; OZHIGOV, Ye.P.

Decomposition of fluorides of metals of the second periodic group by superheated water vapor. Soob.DVAFAN SSSR no.9:13-28 '58. (MIRA 12:4)

1. Dal'nevostochnyy filial im. V.L.Komarova AN SSSR.
(Fluorides) (Chemical reaction, Rate of)

MIKHAYLOV, M. A.; VEDERNIKOVA, T.I.

Pyrohydrolysis of calcium fluoride and fluorite under dynamic conditions with the addition of silicon dioxide. Izv. Sib. otd. AN SSSR no.3:49-61 '59. (MIRA 12:9)

1. Dal'nevostochnyy filial Sibirskogo otdeleniya Akademii nauk SSSR.
(Calcium fluoride) (Fluorite) (Hydrolysis)

MIKHAYLOV, M.A.

Thermodynamic study of the system $\text{CaF}_2 - \text{SiO}_2 - \text{H}_2\text{O}$ (steam).

Izv.Sib.otd.AN SSSR no.4:71-76 '59. (MIRA 12:10)

1. Dal'nevostochnyy filial Sibirskogo otdeleniya AN SSSR.
(Calcium fluoride--Thermal properties)
(Silica--Thermal properties)

MIKHAYLOV, M.A.; OZHIGOV, Ye.P.

Decomposition of fluorides of metals of the second group by superheated steam. Report No.2: Mechanism of the reactions. Soob.DVPAN SSSR no.10:11-18 '59. (MIRA 13:11)

1. Dal'nevostochnyy filial imeni V.L.Komarova Sibirskogo otdeleniya AN SSSR.

(Fluorides)

(Steam, Superheated)

S/081/62/000/017/021/102
B166/B180

AUTHOR: Mikhaylov, M. A.

TITLE: Production of hydrofluoric acid by pyrohydrolysis of fluorite

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 17, 1962, 59, abstract
17B396 (Tr. Dal'nevost. fil. Sib. otd. AN SSSR, no. 5, 1961,
46 - 98)

TEXT: The kinetics of the pyrohydrolysis of calcium fluoride, fluorite and mixtures of these with 30% SiO_2 was studied under dynamic conditions and in a fluidized bed at 1000 - 1250°C. The use of the fluidized bed method and also the addition of SiO_2 (to the amount of 30% of the weight of charge) considerably shorten the process of fluorite pyrohydrolysis and increase the concentration of hydrogen fluoride solutions. The mechanism of the accelerating effect of additions of SiO_2 was studied. It was found that the increase in the rate of the process was due to the removal of the solid reaction product from the reaction zone and the reduction in the rate of the inverse process. The possible mechanism of pyrohydrolysis was
Card 1/2

S/001/62/000/017/021/102
B166/B180

Production of hydrofluoric ...

examined, and it was found that the polarization properties of the cation have a decisive effect on the reactivity of similar compounds in the same group of the periodic system. [Abstracter's note: Complete translation.]

Card 2/2

07877-67 INT(1)
NR: AP6030338

SOURCE CODE: UR/0170/66/011/002/0264/0265

OR: Mikhaylov, M. D. (Sofia)

~~none~~

E: Stationary temperatures in porous cooling

CE: Inzhenerno-fizicheskiy zhurnal, v. 11, no. 2, 1966, 264-265

C TAGS: heat transfer, cooling, porosity, evaporative cooling, convective cooling, boundary value problem

ABSTRACT: The author makes use of the results of S. Weinbaum and H. L. Wheller (J. Appl. Phys. v. 20, no. 1, 113, 1949) to describe the heat exchange between the coolant and the cooled body through a thick-walled porous tube or sphere. It is assumed that heat from the hot body goes not only to raise the temperature of the coolant, but also evaporates part of it on the surface of the porous body. Final expressions are obtained for the equivalent coefficient of thermal conductivity of the porous body for the relative temperature differential between the coolant and the hot body, solving the appropriate differential equations with boundary conditions of the first kind. It is shown that the results are compatible with those obtained by others. g. art. has: 21 formulas.

CODE: 20/ SUBM DATE: 11Feb66/ ORIG REF: 003/ OTH REF: 009

1/1 bc

UDC: 536.24 + 536.248.2

MIKHAYLOV, M.A.

Free energy of the reaction of cerium fluoride formation.
Izv. Sib. otd. AN SSSR no. 6, 1977, 172. (MIRA 17.8)

1. Dal'nevostochnyy filial Sibirovskoy otdeleniya AN SSSR,
Vladivostok.

L 4251-66

EWT(d)/EWT(1)/EWP(m)/EWA(d)/EWP(v)/EWP(k)/EWP(h)/FCS(k)/EWP(1)/

ACCESSION NR: AP5018464 EWA(1)

UR/0115/65/000/005/0024/0026
536.53.088

38
5

AUTHOR: Mikhaylov, M. D.

TITLE: Measuring the temperature of pulsating-speed flows

SOURCE: Izmeritel'naya tekhnika, no. 5, 1965, 24-26

TOPIC TAGS: temperature measurement, thermometer ^{qm} 14

ABSTRACT: Based of the E. P. Kokert and R. M. Drake fundamental differential equation, a theoretical analysis is offered which shows that a thermocouple or resistance thermometer used for measuring the temperature of a pulsating gas or liquid flow represents distorted frequency characteristics of the process and shifts the value of the constant component of the measurand. Orig. art. has: 16 formulas.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: TD

NO REF SOV: 006

OTHER: 000

Card ^{KC} 1/1

0177-162/000/011/018.008
3104/3'02

Author: Morozov, V. I.

Title:

Asymmetric heating of an unbounded plate
Asimmetricheskoe nagrevaniye zhidkosti, v. 1, no. 11, 1962, pp. 109-119

A plate of thickness 2δ is assumed to have the temperature t_0 of the surrounding medium at the instant $t = 0$. The relative heat transfer coefficient has the values $\bar{h}_1 = 1/2$ if $x = 0$, and $\bar{h}_2 = 1/2$ if $x = \delta$. At a certain instant the temperature of the medium changes on one side according to the law $t = f(\tau)$. The temperature distribution through the thickness of the plate at an arbitrary instant is sought. The temperature field is described by

$$\frac{\partial t(x, \tau)}{\partial \tau} = a \frac{\partial^2 t(x, \tau)}{\partial x^2} \quad (x > 0, 0 < x < \delta)$$

$$\begin{aligned} t(x, 0) &= t_0, \\ \frac{\partial t(0, \tau)}{\partial x} + H_1 t(0, \tau) &= f(\tau), \quad t(\delta, \tau) = 0. \end{aligned}$$

170/62/005/011/008/008
B104/B102

symmetric heating ...

$$\frac{dH_1}{dx} + H_1(1/2 - t) = 0$$

Using the Laplace transformation $T(x, s) = \int_0^\infty t(x, \tau) \exp(-s\tau) d\tau$, the solution

$$T(x, s) = \frac{1}{s} \left[\frac{H_1}{a} \left(\frac{1}{s} - \frac{1}{s^2} \right) + \frac{H_2}{a} \left(\frac{1}{s} - \frac{1}{s^2} \right) \right]$$

$$= \frac{1}{s} \left[\frac{H_1}{a} \left(\frac{1}{s} - \frac{1}{s^2} \right) + \frac{H_2}{a} \left(\frac{1}{s} - \frac{1}{s^2} \right) \right]$$

is obtained. This solution is modified for four special cases: (1) the temperature of the heating medium is constant. The solution is

Carl 2, 5

Asymmetric heating ...

S/170/62/005/011/008/008
B104/B102

$$T(x, s) = \frac{t_m}{s}$$

$$= \frac{t_m \left\{ \operatorname{ch} \left[\frac{s}{a} \left(1 + \frac{H_1}{H_2} \right) \right] \frac{a}{s} \operatorname{sh} \left[\frac{s}{a} \right] \right\}}{s \left[\left(1 + \frac{H_1}{H_2} \right) \operatorname{ch} \left[\frac{s}{a} \right] + \frac{1}{H_2} \left[\frac{s}{a} + H_1 \right] \frac{a}{s} \operatorname{sh} \left[\frac{s}{a} \right] \right]} \quad (8),$$

$$= \frac{\phi(s)}{\psi(s)}$$

where $\phi(s)$ and $\psi(s)$ are polynomials; (2) the temperature of the heating medium changes exponentially ($t_c(t) = t_m - (t_m - t_0) \exp(-kt)$ where t_m is the maximum temperature, k a constant). The solution is

Card 3/5

3/170/62/005/011/008/008
B104/B102

Asymmetric heating ...

$$T(x, s) = \frac{t_0}{s} + \left[(t_m - t_0) \operatorname{ch} \left[\sqrt{\frac{s}{a}} (x + H_1) \right] \sqrt{\frac{a}{s}} \operatorname{sh} \left[\sqrt{\frac{s}{a}} x \right] \right] \times$$

$$\times \left[s \left(\left(1 + \frac{H_1}{H_2} \right) \operatorname{ch} \left[\sqrt{\frac{s}{a}} b + \left(\frac{1}{H_2} \right) \sqrt{\frac{s}{a}} + H_1 \right] \sqrt{\frac{a}{s}} \right) \right.$$

$$\left. + \operatorname{sh} \left[\sqrt{\frac{s}{a}} b \right] \left(\frac{s}{k} + 1 \right) \right] \quad (12);$$

(3) the temperature of the heating medium is a linear function of time
($t_c(t) = t_0 + bt$). The solution is

$$T(x, s) = \frac{t_0}{s} +$$

$$+ \frac{b}{s^2} \left[\left(1 + \frac{H_1}{H_2} \right) \operatorname{ch} \left[\sqrt{\frac{s}{a}} (x + H_1) \right] \sqrt{\frac{a}{s}} \operatorname{sh} \left[\sqrt{\frac{s}{a}} x \right] \right] \quad (14);$$

$$+ \frac{b}{s^2} \left[\left(1 + \frac{H_1}{H_2} \right) \operatorname{ch} \left[\sqrt{\frac{s}{a}} b + \left(\frac{1}{H_2} \right) \sqrt{\frac{s}{a}} + H_1 \right] \sqrt{\frac{a}{s}} \operatorname{sh} \left[\sqrt{\frac{s}{a}} b \right] \right]$$

(4) the temperature of the heating medium is a simple harmonic function of
time ($t_c = t_m \cos \omega t$). The solution is

Card 4/5

Asymmetric heating ...

07/12/01, 005/011, 006/005
5104/B'72

$$T(x, y) = \frac{I_0}{\lambda} =$$

$$= s_m \left[\frac{1}{a} \left(H_1 \right) - \frac{1}{a} \left(H_2 \right) \right] \sqrt{\frac{1}{a} \left(H_1 \right) - \frac{1}{a} \left(H_2 \right)} \quad (16)$$

$$\frac{H_1}{H_2} \left(\frac{1}{a} \right) \sqrt{\frac{1}{a} \left(H_1 \right) - \frac{1}{a} \left(H_2 \right)} = \frac{H_1}{H_2} \left(\frac{1}{a} \right) \sqrt{\frac{1}{a} \left(H_1 \right) - \frac{1}{a} \left(H_2 \right)}$$

ASSOCIATION: Mashino-elektrotekhnicheskiy institut, g. Sofiya, Bolgariya
(Mechanical and Electrical Engineering Institute, Sofia,
Bulgaria)

SUBMITTED: April 6, 1962

Card 5/5

MIKHAYLOV, M.D.

Measuring metal thermal conductivity. Godishnik mat elekt
8:61-64 '60. (publ. '61).

MIKHAYLOV, M.D.

Heating of a limited liquid volume through plates. Izv.vys.ichesb.
zav.;av.tekh. 7 no.2:156-158 '64. (MIRA 17:9)

MIKHAYLOV, M.D.

Heating a body in a limited field of view. Zhur. T. no. 1:
63-65 Ja '64. (MIRA 17:2)

1 Mashinno-elektrotekhn. instytut, 190000, Leningrad.

MIKHAYLOV, M.D. (Sofiya, Bolgariya)

Heating of a two-layer plate PMTF no. 6:172-173 N-D '63.
(MIRA 17:7)

MIKHAYLOV, M.D.

Periodic heating of a fluid through plates. Inzh.-fiz. zhur.
7 no. 3-64-67 Mr '64. (MIRA 17:5)

1. Mashtino-elektrotekhnicheskiy Institut, g. Sofiya, Bolgariya.

MIKHAYLOV, M.D.

Passage of thermal waves through windows. Inzh.-fiz. zhur. 7
no.4:81-83 Ap '64. (MIRA 17:4)

1. Mashinno-elektrotekhnicheskiy institut, Sofiya, Bolgariya.

ACCESSION NR: AP4040982

8/0147/64/000/002/0156/0158

AUTHOR: Mikhaylov, M. D.

TITLE: Heating of enclosed volumes of liquids through plates

SOURCE: IVUZ. Aviatzionnaya tekhnika, no. 2, 1964, 156-158

TOPIC TAGS: aerodynamic heating, aircraft fuel, fuel tank insulation

ABSTRACT: A theoretical study was made of the aerodynamic heating of fuel in aircraft fuel tanks, and an equation was derived for calculating the thickness of an insulating layer for aircraft fuel tanks to prevent the aerodynamic heating of fuel in the tanks of high-speed, long-range aircraft.

ASSOCIATION: none

SUBMITTED: 10Jun63

ENCL: 00

SUB CODE: AC

NO REF SOV: 000

OTHER: 000

Cord 1/1

TH. ALLEN, P. F.

"K. F. Allen, P. F. Allen, and H. D. Allen, Jr.
in the probability of occurrence of the event of interest
to the system. From 1.40 to 1.60 K. F. Allen (1.40)

3 : Allen, P. F. Allen, and H. D. Allen, Jr.
7 : #

MIKHAYLOV, M.F.

Selection and training of workers in the field of metrology and
measuring techniques. Izv.tekh. no.4:17-20 J1-Ag '56. (MLRA 9:11)
(Employees, Training of)
(Vocational education)

S/081/61/000/019/084/085
3103/3147

AUTHORS: Bozveliyeu, L., Mikhaylov, M. G.

TITLE: Electron microscopic investigation of polyvinyl chloride

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 19, 1961, 562, abstract
19R11 (Dokl. Bolg. AN, v. 13, no. 2, 133-142)

TEXT: The morphological characteristics of the polyvinyl chloride (I) structure were studied. Films of I without packing were produced for observation under an electron microscope. A 0.5% solution of pure I in specially rectified dichloro ethane was dropped onto a water surface. A laminated fibrillar structure of I films was observed; this had also been shown by Kargin and Bakeyev (see RZhKhim, no. 19, 1957, 63698). Fibrils (F) are bandlike formations whose widths vary within wide limits. The individual F are heterogeneous formations consisting of other, smaller F with the same direction. The narrowest F are 70-80 Å wide. The existence of a mutually regular arrangement of macromolecules up to micelles and F was assumed; therefore, the F must not be regarded as disordered molecular chains. [Abstracter's note: Complete translation.]

Card 1/1

MIKHAYLOV, M.G.; GLEBOV, V.G.; FAYNBOYM, I.B., red.; SOKOLOV, O.I.,
red.; RAKITIN, I.T., tekhn. red.

[Mars; articles by Soviet and foreign scientists] Mars; sbornik
statei sovetskikh i zarubezhnykh uchenykh. Moskva, Izd-vo
"Znanie," 1962. 62 p. (Novoe v zhizni, nauke, tekhnike. IX Se-
riia: Fizika i khimiia, nos.23/24) (MIRA 16:1)
(Mars (Planet))

POTEMKIN, Fedor Vasil'yevich; MIKAYLOV, Mikhail Ivanovich; BOGOLYUBOV,
N.D., redaktor; HAUMOV, K.M., tekhnicheskii redaktor.

[Workers's and national liberation movements during the revolutions
of 1848-1849] Rabochee i natsional'no-osvoboditel'noe dvizhenie vo
vremia revolutsii 1848-1849 godov. Moskva, Vysshiaia partiinai
shkola pri TsK KPSS, 1957. 102 p. (MLRA 10:6)
(Europe--Labor and laboring classes)

MIKHAYLOV, M.I., otv. red.; TUROK-POPOV, V.M., red.; VINOGRADOV,
V.N., red.; ROGINSKAYA, A.Ye., red.; VOLKOVA, V.V.,

[The labor movement in modern times] Rabochee dvizhenie v
novoe vremia; sbornik statei. Moskva, Izd-vo "Nauka,"
1964. 542 p. (MIRA 17:3)

1. Akademiya nauk SSSR. Institut istorii.

MIKHAYLOV, A.I., doktor tekhn. nauk; NOVOSELOV, A.S., kandyd. tekhn. nauk. Principali uchastnye: FURMAN, I.M., tekhnik; AMEL'CHENKO, E.A., tekhnik; KAZUNOV, L.D., otv. red.; MOLODANSKIYA, V.Ye., red.

[Regulations governing the construction and repair of overhead communication lines and wire broadcasting networks] Pravila stroitel'stva i remonta vozdukhnykh liniy svyazi i radiotranslyatsionnykh setei. Moskva, Svyaz'-izdat. 1962. 109 p. (Z1 A 17:3)

1. Russia (193- U.S.S.R.) Ministerstvo svyazi.

1ST AND 2ND COVER										PROCESSING AND PROPERTY INDEX										100 AND 2TH COVER																																																																					
SA										B 64										u																																																																					
681.3.013.7-82										28																																																																															
Determination of the critical distance between track and power transmission lines in electric railways. Michailov, M. I. Bull. Acad. Sci. USSR (Dep. Tech. Sci.), Nos. 3-4, pp. 99-109, 1942.- The coefficient of screening, defining the effect of the track current on e.m.f.'s induced by overhead and cable transmission lines, reaches a stable min. under certain conditions of mutual separation between power transmission line, track and traction power line. An examination of these considerations affords a mathematical determination of optimum conditions.																																																																																									
E. R. A.																																																																																									
ASB. SLA METALLURGICAL LITERATURE CLASSIFICATION																																																																																									
<table border="1"> <tr> <td colspan="10">1000 1000 1000</td> <td colspan="10">1000 1000 1000</td> <td colspan="10">1000 1000 1000</td> </tr> <tr> <td colspan="10">1000 1000 1000</td> <td colspan="10">1000 1000 1000</td> <td colspan="10">1000 1000 1000</td> </tr> </table>																														1000 1000 1000										1000 1000 1000										1000 1000 1000										1000 1000 1000										1000 1000 1000										1000 1000 1000									
1000 1000 1000										1000 1000 1000										1000 1000 1000																																																																					
1000 1000 1000										1000 1000 1000										1000 1000 1000																																																																					

MILKAYLOV, M. I.

P A 15/49 T20

USSR/Electricity
Telegraph Line Units
Railroads, Electric

Jul 48

"Protection of Telegraphic Communication From the
Effect of Direct-Current Railroads," M. I.
Mikhaylov, Dr Tech Sci, Sci-Res Inst of Communi-
cations, Ministry of Communications USSR, 4 $\frac{1}{2}$ pp

"Elektrichestvo" No 7

Direct-current railroads cause serious interference
in single-line telegraph communications. Examines
two countermeasures, giving results of investigation
of their effectiveness.

15/49 T20

MIKHAYLOV, M.I.; AKULENOK, V.N.; MARCHENKO, A.F.

[Protection against corrosion of interurban communication cables] Zashchita
mezhdugorodnykh kabelei svyazi ot korrozii. Moskva, Gos.izd-vo lit-ry po
voprosam svyazi i radio, 1953. 130 p. (MLA 6:7)
(Cables)

~~MIKHAYLOV, M.S.~~ otvetstvennyy redaktor; BELIKOV, B.S., redaktor;
KHELEMSKAYA, L.M., tekhnicheskiiy redaktor

[Provisional instructions on planning the protection of interurban
cables from corrosion] Vremennaya instruktsiya po proektirovaniu
zashchity mezhdugorodnykh kabelei ot korrozii. Moskva, Sviaz'izdat,
1954. 52 p. [Microfilm] (MLRA 9:12)

1. Russia (1923- U.S.S.R.) Ministerstvo svyazi. Glavnoye
upravleniye lineyno-kabel'nogo khozyaystva.
(Cables) (Corrosion and anticorrosives)

3242. Protection of measuring circuits against disturbing influences of l.f. magnetic and electric fields. M. I. Mikhailov and L. D. Razumov. Elektrichestvo, 1954, No 2, 26-31. In Russian.

A comprehensive investigation of the disturbing effects of the stray fields of transformers, motor generators, etc., on laboratory instruments for l.f. measurements and their possible elimination by screening chambers and cubicles yielded, above all, the fact that asymmetrical loading of transformers may amplify the disturbances by a factor of 3-5, and the starting of squirrel-cage motors also increases the magnetic field strength by similar amounts. With motor-generators, the strength of the disturbances depends largely on the design of the motor, modern closed types causing much less trouble than the old open types. Approximate theoretical formulae for determining the attenuation by various types of chambers are compared with experimental attenuation curves obtained with chambers consisting of various metals, with solid walls and walls consisting of single layers with interstices. The latter construction is far more efficient than chambers with solid walls, and the more so the greater the number of layers (4-5 layers of 0.5-1 mm thickness and insulated against each other are satisfactory). In the case of large chambers and cubicles two layers at a fairly large distance is an economic solution. It is well known that ferromagnetics are the best screening materials.

B. F. Kreus

STEFYLOV, M. I.

621.393.82 : 621.332

3415. Experiments for clarifying the influence on communication systems of electric railways operated with a.c. M. I. MIKHAILOV, M. V. MARKOV AND L. D. RAZUMOV. *Elektrichestvo*, 1954, No. 4, 23-8. In Russian.

The effect of d.c.-operated railways on communication lines further than 50-60 cm from the railway track may be suppressed by the usual smoothing filters in the traction substations, whereas the interference range of 1-ph. railways extends to 2-3 km. Theoretically the voltage induction effects of the

longitudinal e.m.f. of an overhead or cabled traction system operated at 22 kV 1-ph. on telephone lines disappear at a distance of ~100 m. However, the current induction (magnetic field) effects extend far beyond this distance. Comprehensive measurements reported on a railway contact system and neighbouring telephone lines dealt with the longitudinal e.m.f. in relation to mutual approach of lines and earth resistivity, noise voltage in the telephone lines v. approach, earth resistivity and form factors of current voltage curves. The investigations also comprise screening effect of return lead depending on position of telephone wire, variation of effective and psophometric voltages v. variation of currents and influencing loop lengths during the movement of electric locomotives of various types. In most respects the measurements confirmed theory, so that all the effects are, in general, predictable. The only promising protective measure is the cabling of telephone lines where they approach the track below a determined critical distance. B. F. KRALIS

KHAYLOV, M. I.

AID P - 651

ject : USSR/Electricity
d 1/1 Pub. 27 - 20/34
hors : Mikhaylov, M. I., Dr. of Tech. Sci., Razumov, L. D., Eng.
and ~~Nikol'skiy~~, K. K., Eng., Moscow
le : Rules for protection of underground metallic structures
from corrosion caused by stray currents. (Elektrichestvo,
No. 9, 1952, No. 5, 1953), (Discussion)
iodical : Elektrichestvo, 9, 84-85, S 1954
tract : The existing rules, published in 1940, do not well satisfy
the new requirements of the electric traction. The authors
comment upon the suggestions of changes presented by
B. G. Lortkipanidze in Elektrichestvo, No. 9, 1952.
titution : None
mitted : No date

KHAYLOV, M.I.

ER/ Electronics - Bleeder coils

1/1 Pub. 133 - 3/19

Authors :Miknailov, M. I., Prof. and Dr. of Engineering Sciences, Chief, TsNIIS
(Central Research Institute for Communications) Laboratory
Title :The action of drainage coils (bleeder coils) in reducing distortions

Periodical :Vest. svyazi 1, 5 - 7, Jan 1955

Abstract :An analysis was made by the Central Research Institute for Communications on the magnitude of distortions in telegraph systems where bleeder coils were inserted in the line. The distortions, caused by overvoltages, generated by pulse oscillators, were measured and a comparison made for telegraph line systems with and without bleeder coils. The results are outlined. Diagrams; graphs; tables.

Institution:

Submitted:

MIKHAYLOV, M. I.

AID P - 2343

Subject : USSR/Electricity

Card 1/2 Pub. 27 - 7/30

Authors : Mikhaylov, M. I., Doc. of Tech. Sci., and
Razumov, L. D., Eng., Moscow

Title : Determination of the impedance of earth

Periodical : Elektrichestvo, 5, 31-35, My 1955

Abstract : The authors analyse methods of calculation of the mutual impedance between two circuits with earth return. When the earth is of uniform conductivity, the Carson-Pollaczek formula applies. When the earth is not of uniform conductivity, calculations are extremely tedious. The authors applied and developed a method introduced in 1936 by W. G. Radley and H. J. Josephs. They determined the impedance on the assumption of a simple 2-layer stratification. Curves were calculated giving equivalent conductivity for horizontally-stratified earth. Errors of calculation do not exceed 10-15 per cent. Five diagrams, 5 references (4 Soviet) (1937-1950).

AID P - 2343

Elektrichestvo, 5, 31-35, My 1955

Card 2/2 Pub. 27 - 7/30

Institution: None

Submitted : D 24, 1954

112-57-8-18006

Translation from: Referativnyy zhurnal, Elektrotekhnika, 1957, Nr 8,
p 313 (USSR)

Author: Mikhaylov, M. I.

Title: Lightning Protection of Underground Cables (Zashchita podzemnykh
kabeley ot udarov molnii)

Periodical: Sb . nauch. tr. Tsentr. n.-i. in-ta svyazi (Collection of
Scientific Transactions of the Central Scientific-Research Institute of
Communications), Moscow, Svyaz'izdat, 1956, pp 60-86

Abstract: The nature of damage to cables caused by lightning, as derived from
Soviet and foreign data, is described. An analysis of causes of cable
faults is given and pictures of typical faults are presented. Steps to
protect an underground cable against lightning are considered; these
include: lowering the coupling resistance of the cable sheath; increasing
the top insulation lay of the cable conductors; and draining lightning
currents away from the cable. Practical advice on the methods of cable
lightning protection is suggested. Bibliography: 11 items.

N. Ye. L.

ard 1/1

CHAY LOV, M-1.

5

021.315.23 : 020.193

2145. CONNECTION OF UNDERGROUND METALLIC SYSTEMS THROUGH D.C. POWER TRANSMISSION WITH CABLE AND EARTH RETURN. S.A. Dazhenov, K.K. Nikol'ski and M.I. Mikhailov

Elektr. Stantsii, 1968, No. 1, 34-8. In Russian.

The return current of the 112 km long 220 kV, 150 A d.c. power transmission system was sent through the earth for a distance of 67 km with earthing electrodes 0.05 and 1.1 km off the cable track. The cable sheath potential and current were measured over a distance of 3-5 km from the point nearest to the electrodes and the results compared with calculations. The permissible current density of 0.15 mA/dm² would require a minimum distance of the electrode from the cable of about 9 km, but a revision of this value is recommended for cases where the d.c. earth return is used in emergencies only.

F. Rosemann

(Handwritten signature)

KHAYLOV, M. I., and NIKOL'SKIY, K. K.

"Conditions for the Approach of Communications Overhead and Cable Lines to Superhigh-Voltage, DC Transmission Lines," by M. I. Mikhaylov and K. K. Nikol'skiy, Elektrosvyaz', No 11, Nov 56, pp 65-75

The article stresses the importance of investigating interference of dc superhigh-voltage power lines, which promise to play an important part in future power transmission, with lines of communications.

The dc superhigh-voltage power transmission lines offer greatest interference to communication lines at the points where the ac current is first rectified into dc power, and also at points of inversion of dc current back into ac power.

The author discusses in detail the basic effects of dc power transmission lines on overhead and cable lines of communications. Formulas are presented for calculating the induction effect of the power line on low-frequency communication channels. A method is offered for calculating noise level of high-frequency communications carried over superhigh-voltage dc power line conductors.

1239

NIKOL'SKIY, Konstantin Konstantinovich; RAZUMOV, Leonid Davydovich;
MIKHAYLOV, M.I., otvetstvennyy redaktor; DOBRYNINA, A.Ya., redaktor;
SUSHKEVICH, V.I., tekhnicheskiy redaktor

[Joint corrosion protection of communication cables and underground metal equipment] Sovmestnaya zashchita ot korrozii kabelei svyazi i podzemnykh metallicheskiykh sooruzhenii. Moskva, Gos.izd-vo lit-ry po voprosam svyazi i radio, 1957. 36 p. (MLRA 10:9)

1. Laboratoriya zashchity Tsentral'nogo nauchno-issledovatel'skogo instituta svyazi Ministerstva svyazi SSSR (for Nikol'skiy, Razumov)
(Electrolytic corrosion)

KHAYLOV, M.I.

3
1265. COMBINED CORROSION PROTECTION OF COMMUNICATION AND POWER CABLES. M.I. Khaylov and L.D. Nazarov. Elektrichestvo, 1957, No. 4, 45-8. In Russian.

The results of an experimental study to ascertain the possibility of establishing the joint protection of power and communication cables from corrosion, i.e. from the possibility of contact between the sheaths. A section of a sufficiently branched, but not dense, urban telephone network was chosen with an accompanying 3 x 95 mm² 6 kV power cable. In the test section of power cable and contiguous telephone conduct a single large cable of the type "Y", 300 x 2 x 0.5 was run. The tests showed that when the power and communications cable sheaths come into contact in normal operation, noises in the communications cable or the potential to earth of the sheath was not increased. In conditions simulating a phase-to-earth fault in the power cable the psophometric voltage of the noise did not increase, but the r.m.s. value of the noise voltage with 175 A in the connection increased on average by 0.7-0.8 mV.

Central Electricity Authority Digest

pph
ccg

272

AUTHORS: Mikhaylov, M. I., Sokolov, S.A.

LE: Protection against direct lightning strokes of reinforced-concrete communication-line poles. (Zashchita zhelezobetonnykh opor lininiy svyazi ot pryamykh udarov molnii).

IODICAL: "Elektrosvyaz" (Telecommunications), 1957, No.4, April, pp. 67 - 74 (U.S.S.R.)

TRACT: The authors give results of experiments undertaken by TsNIIS at the proving grounds in Golitzyn in 1955. The results obtained may be given as follows: reinforced concrete poles can be used as a lightning conductor without special earthing systems. Measurements showed that their resistance is 20 to 70 ohms, while the soil resistivity is of the order of 300 ohm/meter. From theoretical considerations, no excessive temperature rise of armature, with subsequent damage to the concrete, is to be expected. This was proved experimentally on poles subjected to current pulses up to 60 000 amps. Experiments have also shown that damage to the concrete occurs for every lightning stroke. The breakdown occurs at voltage pulses of 33 - 34 kV with corresponding current pulses of 5000 amps or higher. For very large currents (50 000 to 60 000 amps) disintegration of concrete should not be unexpected, especially in the

MIKHAYLOV, M. I.

MATERIALS

"Corrosive Action of Current in DC Transmission Lines of the "Wire-to-Ground" System in a Communication Cable," by M. I. Mikhaylov and K. K. Nikol'skiy, Elektrosyaz', No 7, July 1957, pp 68-72

An investigation was made of the danger of corrosion of the sheaths of communication cables, laid near working grounds of dc electric transmission lines, with active ground. The fundamental methods for protecting the sheaths of underground cables against corrosion by these currents are indicated.

Card 1/1

- 25 -

32(3)

SOV/112-59-2-3065

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1959, Nr 2, p 117 (USSR)

AUTHOR: Mikhaylov, M. I., Kuptsov, Yu. Ye., and Razumov, L. D.

TITLE: Determining the Electric Parameters of a Single-Phase Contact-Wire System (Opredeleniye elektricheskikh parametrov kontaktnoy seti odnofaznogo peremennogo toka)

PERIODICAL: Vestn Vses n-i in-ta zh -d. transp , 1957, Nr 8, pp 16-20

ABSTRACT: To evaluate the accuracy of existing methods for calculating electrical parameters of a contact system, Vsesoyuznyy nauchno-issledovatel'skiy institut zheleznodorozhnogo transporta (All-Union Scientific-Research Institute of Railroad Transportation) and Tsentral'nyy nauchno-issledovatel'skiy institut svyazi (Central Scientific-Research Institute of Communications) used various computation methods and also actual measurements on an experimental section Ozherel'ye-Pavelets in 1956. Computation methods were suggested by M. I. Mikhaylov and by K. A. Parfenov. A comparison of calculated and measured

Card 1/2

SOV/112-59-2-3065

Determining the Electric Parameters of a Single-Phase Contact-Wire System

values showed that major parameters of the contact system can be calculated by both methods, except for determination of rail-track resistance, for which the formulae should be made more accurate. In calculating capacitance, it should be kept in mind that its approximate determination from the formula for a single-wire circuit yields results 40-45% lower than the true capacitances. The measured values of the contact-system parameters are fairly close to the values obtained in other countries and for other line sections. Data comparison shows that by using a bimetallic messenger (the USSR), thanks to the split-phase effect, the same reduction of the contact-circuit impedance is attained as by using a bronze messenger (France and Germany). On the other hand, the strength of the bimetallic messenger ensures better mechanical characteristics of the wire network with relatively low copper expenditures. In case of two-track AC electrification, the contact systems of both tracks should be connected in parallel because that results in reducing the impedance by approximately 40%. Bibliography: 5 items

K. V. A

Card 2/2

MIKHAYLOV, M.I., doktor tekhnicheskikh nauk, professor; NIKOL'SKIY, K.K.,
inzhener; RAZUMOV, L.D., inzhener; SOKOLOV, S.A., inzhener.

Protecting interurban underground communication cables from
lightning. Vest. svyazi 17 no.3:8-10 Mr '57. (MIRA 10:4)

1. Nachal'nik laboratorii Tsentral'nogo nauchno-issledovatel'skogo
instituta svyazi (for Mikhaylov).
(Electric cables) (Lightning protection)

MIKHAYLOV, M. I. , KOSTENKO, M. V. and CHERNYAYEV, I. V.

Disturbing Effect from 3-phase power-transmission lines on telecommunication lines.

paper submitted for presentation at the Intl. Conf. on Large Electric Systems (CIGRE) 17th Biennial Session, Paris, France, 4-14 June 1958.

Electra, No. 30, Nov 57, periodical news letter issued by the CIGRE, Paris

CABLES

"Calculations Involved in Protection of Underground Communication Cables Against Corrosion When the Cables are Close to Electrified Railroad Tracks", by M.I. Mikhaylov and L.D. Razumov, Elektrosvyaz' No 1, January 1958, pp 43-50.

An engineering method is given for computing the parameters of a corrosion protection for cables when the cables run parallel to electrified railroad tracks. Formulas are given that can be used in the design of cable protection against electric corrosion. The dependence of the parameters of the protective system against various factors (specific resistivity of the ground, distance between the electrified railroad and the cable, etc.) are given.

Card 1/1